

# UMATILLA HATCHERY SATELLITE FACILITIES O&M

8343500

## SHORT DESCRIPTION:

Collect, hold and spawn summer steelhead, coho, fall and spring chinook salmon and provide eggs to ODFW hatcheries for incubation, rearing and later release into the Umatilla River Basin. Acclimate juvenile salmon and steelhead prior to release into the Umatilla River Basin.

## SPONSOR/CONTRACTOR: CTUIR

Confederated Tribes of the Umatilla Indian Reservation  
Gary James, Fisheries Program Manager  
Pendleton, OR 97801  
541/276-4109

## SUB-CONTRACTORS:

Bureau of Reclamation

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## GOALS

### GENERAL:

Supports a healthy Columbia basin, Maintains biological diversity, Maintains genetic integrity, Increases run sizes or populations

### ANADROMOUS FISH:

Production

### NPPC PROGRAM MEASURE:

7.4I.1 & 7.4I.2

### RELATION TO MEASURE:

The project provides for the operation of the Umatilla Hatchery satellite facilities including Bonifer, Minthorn, Thornhollow and Imeqes C-mem-ini-kem acclimation ponds and Three Mile Dam and South Fork Walla Walla adult brood holding and spawning facilities.

### BIOLOGICAL OPINION ID:

NMFS Hatchery Operations Biological Opinion

### OTHER PLANNING DOCUMENTS:

Wy Kan Ush Me Wa Kush Wit, Umatilla Hatchery Master Plan, Umatilla Hatchery and Basin Annual Operation Plan and Umatilla Subbasin Plan

### TARGET STOCK

### LIFE STAGE

### MGMT CODE (see below)

Umatilla River/Tanner Creek Coho	Egg/Smolt/Adult	S
Umatilla/Mid-Columbia River Fall Chinook	Egg/Smolt/Adult	S
Umatilla River/Carson Spring Chinook	Egg/Smolt/Adult	S
Umatilla River Summer Steelhead	Egg/Smolt/Adult	S,W

### AFFECTED STOCK

### BENEFIT OR DETRIMENT

Snake River Fall Chinook	Potential impacts unknown
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## BACKGROUND

### Stream name:

Umatilla River

### Subbasin:

Umatilla

### Stream miles affected:

100+

### HISTORY:

In the early 1980's, CTUIR and ODFW began implementing a comprehensive plan to supplement steelhead and re-establish salmon runs in the Umatilla River Basin. Umatilla Hatchery satellite facilities are an integral part of this program. Four juvenile

acclimation and release facilities were constructed from 1983 to 1995 and an adult coho and fall chinook holding and spawning facility was built in 1996. A spring chinook adult holding/spawning facility will be completed in the spring of 1997. One or two additional facilities are needed to acclimate all Umatilla River fish releases. All satellite facilities are operated by CTUIR.

#### **BIOLOGICAL RESULTS ACHIEVED:**

Salmon runs were extinct in the Umatilla River Basin prior to implementation of the Umatilla River fish restoration program. This plan, of which the Umatilla Hatchery satellite facilities are a key component, has resulted in annual returns of salmon and steelhead to the Umatilla River of 3,300 to 8,000 adults in the last 10 years. Since the satellite facilities have been in operation, approximately 12 million coho and fall and spring chinook and summer steelhead juveniles have been acclimated and released. The facilities are also used to hold and spawn coho and fall and spring chinook salmon and summer steelhead. Approximately 6.7 million eggs have been taken and provided to ODFW hatcheries for incubation, rearing and later release back into the Umatilla River.

#### **PROJECT REPORTS AND PAPERS:**

CTUIR submits monthly reports and an annual report (Project 8343500) to BPA. The annual reports are available for each year since project inception.

#### **ADAPTIVE MANAGEMENT IMPLICATIONS:**

The functions of the Umatilla Hatchery satellite facilities are essential to the implementation of the overall Umatilla Basin fish restoration program. The facilities allow fish managers to: 1) release juveniles in targeted areas for re-establishment of natural production, 2) acclimate/imprint smolts for increased survival and homing, and 3) hold and spawn adult salmon and steelhead and provide eggs for the Umatilla River production program.

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### **PURPOSE AND METHODS**

#### **SPECIFIC MEASUREABLE OBJECTIVES:**

The goals and objectives of the project can be measured by: 1) the number of juvenile salmon and steelhead that are acclimated and released at the facilities, 2) the adult contribution to ocean, Columbia and Umatilla River fisheries, 3) the number of Umatilla adult returns that are utilized for broodstock and contribute to harvest and natural production, and 4) the number of eggs that are taken and provided to ODFW hatcheries.

#### **CRITICAL UNCERTAINTIES:**

Critical uncertainties include smolt to adult survivals related to habitat availability, ocean conditions and mainstem Columbia and Umatilla River passage. Risks include potential damage to other stocks.

#### **BIOLOGICAL NEED:**

Artificial production is required in the Umatilla River Basin to bring back extirpated and depressed anadromous fish runs. The satellite facilities specifically address juvenile acclimation and release and adult broodstock holding and spawning needs which are essential to achieving the overall Umatilla Basin natural and hatchery adult return goals.

#### **HYPOTHESIS TO BE TESTED:**

N/A

#### **ALTERNATIVE APPROACHES:**

None were identified.

#### **JUSTIFICATION FOR PLANNING:**

N/A

#### **METHODS:**

The specific project objectives associated with the facilities include: 1) acclimate and release groups of juvenile summer steelhead

, coho and chinook salmon, 2) determine general trends in juvenile outmigration timing, 3) collect summer steelhead, coho, spring and fall chinook salmon at Three Mile Dam on the Umatilla River and transport them to holding facilities, 4) spawn steelhead and chinook and coho salmon and provide eggs to ODFW hatcheries for incubation, rearing and release in the Umatilla River, 5) monitor juvenile and adult fish for physical data and health, 6) collect information and snouts from coded-wire tagged fish and send the snouts to ODFW for tag retrieval and decoding, 7) access coded-wire tag information from appropriate sources and determine smolt to adult survival of all coded wire tag groups released into the Umatilla River as well as contribution to ocean, Columbia and Umatilla River fisheries, and 8) perform daily routine maintenance and repair of all equipment, buildings and grounds.

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## PLANNED ACTIVITIES

### SCHEDULE:

<b><u>Planning Phase</u></b>	<b><u>Start</u></b> 1980	<b><u>End</u></b> 1998	<b><u>Subcontractor</u></b>
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**Task** Identify satellite requirements and design facilities.

<b><u>Implementation Phase</u></b>	<b><u>Start</u></b> 1983	<b><u>End</u></b> ongoing	<b><u>Subcontractor</u></b>
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**Task** Construct satellite facilities.

<b><u>O&amp;M Phase</u></b>	<b><u>Start</u></b> 1983	<b><u>End</u></b> On-going	<b><u>Subcontractor</u></b>
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**Task** Bonifer, Minthorn, Imeqes C-mem-ini-kem, Thornhollow and Threemile Dam satellite facilities will continue to be operated for acclimation of juvenile salmon and steelhead and for holding/spawning adult salmon and steelhead. South Fork Walla Walla holding/spawning facility is presently being built and will be complete and operational in the spring of 1997. Remaining projects include construction of one or two additional satellite facilities to accommodate increased juvenile acclimation. Continue BPA funding for construction of remaining facilities (Pjct #9104100) and perform operation and maintenance at all facilities.

### PROJECT COMPLETION DATE:

On-going

### CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

None identified

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## OUTCOMES, MONITORING AND EVALUATION

### SUMMARY OF EXPECTED OUTCOMES

#### Expected performance of target population or quality change in land area affected:

The reduced stress and increased imprintation of juvenile salmon and steelhead released from acclimation ponds in the Umatilla River Basin will increase smolt to adult survival back to the Columbia and Umatilla Rivers. It is also anticipated the adult facilities will provide some coho and all of the steelhead, fall and spring chinook eggs necessary to meet the Umatilla Basin artificial production goals. Total salmon and steelhead adult return goals to the Umatilla River Basin are approximately 48,000.

#### Present utilization and conservation potential of target population or area:

The Umatilla River restoration program, of which the satellite facilities are an integral part, has resulted in annual returns of salmon and steelhead to the Umatilla River of 3,300 to 8,000 adults in the last 10 years.

#### Assumed historic status of utilization and conservation potential:

Runs of fall and spring chinook and coho salmon in the Umatilla River were essentially eliminated in the early 1900's. The single indigenous naturally spawning anadromous stock left in the basin is a run of approximately 1,100 to 2,800 STS.

#### Long term expected utilization and conservation potential for target population or habitat:

Total adult salmon and steelhead return goals to the Umatilla River Basin are approximately 48,000. The Umatilla Hatchery Mast

er Plan identifies adult return goals for each target species.

**Contribution toward long-term goal:**

The project will eventually provide some coho and all of the steelhead, fall and spring chinook eggs needed for the Umatilla River artificial production program and will increase smolt to adult survival back to the Umatilla River.

**Indirect biological or environmental changes:**

None identified

**Physical products:**

Since 1983, approximately 12 million juvenile salmon and steelhead have been acclimated and released into the Umatilla River Basin. The number of fish acclimated annually has risen from 20,000 in 1983 to over 4 million in 1996. In addition, approximately 4,800 broodstock have been collected and held for spawning and approximately 6.7 million eggs have been taken and transported to ODFW hatcheries.

**Environmental attributes affected by the project:**

None identified

**Changes assumed or expected for affected environmental attributes:**

None identified

**Measure of attribute changes:**

N/A

**Information products:**

Monthly and annual reports provide information on juvenile acclimation, adult holding and spawning, juvenile and adult physical health, juvenile outmigration, maintenance and repair of facilities and adult survival and contributions.

**Coordination outcomes:**

The project requires a great deal of cooperation and coordination among many diverse interest groups. Over the years, this cooperation and coordination has improved as all parties have gained additional knowledge and experience.

**MONITORING APPROACH**

The project's outcomes can be partially measured by the number of smolts that are acclimated and released and the number of eggs that are taken. These goals have been met but are secondary to the goal of increasing adult returns to the Umatilla River. All groups of fish released in the Umatilla River are representatively coded-wire tagged and smolt to adult survivals are determined as well as contribution to ocean, Columbia and Umatilla River fisheries.

**Provisions to monitor population status or habitat quality:**

Several projects work closely together to monitor population status. The Umatilla River Basin Trap and Haul Program provides a comprehensive monitoring opportunity for assessing adult returns to the Umatilla River and the Umatilla Basin Natural Production M & E Program conducts extensive spawning ground and juvenile outmigration surveys to assess natural production success.

**Data analysis and evaluation:**

Data collected by this project and others is shared with the UHM&E program and is also summarized in an annual report to BPA. The information is analyzed by CTUIR and ODFW managers and researchers.

**Information feed back to management decisions:**

Based on information provided by this project and others, adaptive management decisions are made each year by basin co-manage

rs. These decisions are incorporated into the Umatilla Hatchery and Basin Annual Operation Plan.

**Critical uncertainties affecting project's outcomes:**

Mainstem Columbia and Umatilla River passage and habitat conditions need to be improved.

**EVALUATION**

As previously mentioned, the projects performance or success can be measured by the number of smolts successfully acclimated and released and the number of eggs taken as compared to the production goals outlined in the Umatilla Hatchery and Basin Annual Operation Plan, In addition, all juvenile release groups are representatively coded-wire tagged and smolt to adult survivals and contributions to ocean, Columbia and Umatilla River fisheries are determined.

**Incorporating new information regarding uncertainties:**

Again, information is collected and analyzed by CTUIR and ODFW and any information that changes the goals or operations of the project are incorporated into the Umatilla Hatchery and Basin Annual Operation Plan.

**Increasing public awareness of F&W activities:**

The satellite facilities are highly visible and open to the public. Information is given to the public through private and public tours.

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**RELATIONSHIPS**

**RELATED BPA PROJECT**

Little White Salmon Hatchery O & M

8902401 Umatilla River WEID/Screens M & E

9000500 Umatilla Hatchery M & E

8343600 Umatilla Passage Facilities O & M

8710001 Umatilla River Basin Anadromous Fish Habitat Enhancement

9000501 Umatilla Basin Natural Production M & E

8802200 Umatilla River Basin Trap and Haul Program

9101400 Umatilla Hatchery Satellites - Design & Construction

8403300 Umatilla Hatchery O & M

**RELATED NON-BPA PROJECT**

Carson National Fish Hatchery O & M/NMFS

**RELATIONSHIP**

LWSH provides fall and spring chinook salmon juveniles for acclimation and release into the Umatilla River

The Umatilla River WEID/Screens M & E project provides biological information related to the operation of the production program.

UHM&E provides biological information related to the operation of the satellite facilities and evaluates the success of the artificial production program.

UPFO&M provides preventative and heavy maintenance at all satellite facilities

The URBAFH&E project provides increased habitat for fish utilization.

The UBNPM&E provides biological information related to the outcome of the production program.

The trap and haul program provides adult recovery information and broodstock for spawning. They also trap and haul outmigrating hatchery produced juveniles during low water conditions

This project provides for design and construction of new satellite facilities which will be operated under pjct. no. 8343500 when completed.

Umatilla Hatchery is the primary production facility for providing juvenile salmon and steelhead smolts for acclimation and release (pjct. no.8343500) into the Umatilla River Basin.

**RELATIONSHIP**

CNFH provides spring chinook salmon juveniles for acclimation and release into the Umatilla River.

**OPPORTUNITIES FOR COOPERATION:**

This project is part of a comprehensive Umatilla River fish restoration plan developed by CTUIR and ODFW in cooperation with the Council, BPA, USFWS, NMFS, various Irrigation Districts and private landowners. The project helps to increase smolt to adult survival and provide eggs for the program and directly increases survival of salmon and steelhead to the upper Columbia River Basin which is consistent with the Council's Fish and Wildlife Program, U.S. vs. OR Columbia River Fish Management Plan and the Pacific Salmon Treaty.

CTUIR operates the Umatilla Hatchery satellite facilities in cooperation with ODFW as part of the Umatilla Basin artificial production program. Other facility operations to complete the program included Umatilla, Little White Salmon, Cascade and Carson National hatcheries operated by ODFW and USFWS. Other projects include fish passage and habitat and flow enhancement funded by the Bureau of Reclamation and BPA. The Bureau of Reclamation and Irrigation Districts also provide preventative and heavy maintenance at all satellite facilities.

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**COSTS AND FTE**

**1997 Planned:** \$365,379

**FUTURE FUNDING NEEDS:**

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$530,000			100%
1999	\$550,000			100%
2000	\$815,000			100%
2001	\$815,000			100%
2002	\$815,000			100%

**PAST OBLIGATIONS (incl. 1997 if done):**

<u>FY</u>	<u>OBLIGATED</u>
1984	\$12,310
1985	\$295,914
1986	\$71,246
1987	\$465,611
1990	\$362,067
1992	\$200,158
1993	\$199,867
1994	\$184,483
1995	\$203,431
1996	\$312,344
1997	\$365,379

TOTAL: \$2,672,810

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

**LONGER TERM COSTS:** The expected annual cost will be approximately \$800,000

Costs will be for continued O & M

**1997 OVERHEAD PERCENT:** 34%

**HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:**

This percentage applies to all direct project costs within the CTUIR portion of the contract, but does not apply to subcontract funds.

**CONTRACTOR FTE:** 1998 & 1999 7.5 FTE's 2000+ 9.0 FTE's

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**SUPPLEMENTAL WILDLIFE EVALUATION FACTORS:**

**PARTS TO BE SAVED:** The Bonifer, Minthorn, Imeqes C-mem-ini-kem, Thornhollow and Threemile Dam satellite facilities will continue to be used for acclimation of juvenile salmon and steelhead and for holding and spawning of adults. Remaining projects include one or two additional satellite facilities to accommodate increased juvenile acclimation and one adult broodstock holding and spawning facility. Continue BPA funding for additional construction of remaining facilities (Pjct #9104100) and perform operation and maintenance at all satellite facilities.